# Complete Summary

## GUIDELINE TITLE

Evidence-based protocol. Individualized music.

## BIBLIOGRAPHIC SOURCE(S)

Gerdner L. Evidence-based protocol. Individualized music. Iowa City (IA): University of Iowa Gerontological Nursing Interventions Research Center, Research Dissemination Core; 2001 Feb. 35 p. [43 references]

## COMPLETE SUMMARY CONTENT



## SCOPE

### DISEASE/CONDITION(S)

Agitation associated with chronic confusion in the elderly

### GUIDELINE CATEGORY

Management

### CLINICAL SPECIALTY

Geriatrics
Nursing
Psychiatry

### INTENDED USERS

Advanced Practice Nurses
Health Care Providers
Nurses

### GUIDELINE OBJECTIVE(S)

To describe strategies for alleviating agitation in chronically confused, elderly persons through the use of individualized music

### TARGET POPULATION

Chronically confused, elderly persons who are experiencing or at risk for agitation, such as patients diagnosed with Alzheimer's disease or related disorders

### INTERVENTIONS AND PRACTICES CONSIDERED

Individualized music, as an intervention, which involves:

1. Determining patients' music preferences [Assessment tools include Assessment of Personal Music Preference (Patient or Family Versions)]
2. Implementing intervention a minimum of 30 minutes prior to peak level of agitation
3. Playing selections for approximately 30 minutes in a familiar setting
4. Assessing patients' response to music intervention periodically with the Cohen-Mansfield Agitation Inventory or the Disruptive Behavior Scale

### MAJOR OUTCOMES CONSIDERED

Frequency and severity of episodes of agitation and combativeness, as measured by direct observation or standard instruments such as the Modified Cohen-Mansfield Agitation Inventory

## METHODOLOGY

### METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases
Searches of Unpublished Data

### DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Library computer searches were conducted via MEDLINE, Nursing CINAHL, and PSYCHLIT. Key words used: dementia, Alzheimer's disease, music, agitation. Personal contacts were also made with researchers in geriatric nursing, psychology and music therapy. Information was acquired through published and unpublished manuscripts, and conference presentations.

### NUMBER OF SOURCE DOCUMENTS

Approximately 80 source documents

## METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

## RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

The evidence in this protocol is based upon research studies that included older adult populations who have dementia. The grading scheme used to make recommendations is as follows:

A. Evidence from well-designed meta-analysis.
B. Evidence from well-designed controlled trials, both randomized and nonrandomized, with results that consistently support a specific action (e.g., assessment, intervention or treatment).
C. Evidence from observational studies (e.g., correlational, descriptive studies) or controlled trials with inconsistent results.
D. Evidence from expert opinion or multiple case reports.

## METHODS USED TO ANALYZE THE EVIDENCE

Decision Analysis
Systematic Review with Evidence Tables

## DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

## METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

## RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

## COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

## METHOD OF GUIDELINE VALIDATION

Peer Review

## DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Reviewed by series editor Marita G. Titler, PhD, RN, FAAN and content expert Kathleen C. Buckwalter, PhD, RN, FAAN.

## RECOMMENDATIONS

### MAJOR RECOMMENDATIONS

The grades of evidence (A-D) are defined at the end of the Major Recommendations.

#### Individuals At Risk For Agitation

Clinical and research findings have identified the following as risk factors for agitation:

- Patients with cognitive impairment as found in persons with Alzheimer´s Disease and Related Disorders (ADRD) (Evidence Grade = B).
- Patients suffering from fatigue or diminished reserve (Evidence Grade = C).
- Patients who have recently experienced a change of environment, caregiver, or routine (Evidence Grade = D).
- Patients who experience pain or infection (Evidence Grade = B).
- Patients who experience an overwhelming influx of external stimuli (i.e. television, public address systems, large crowds) (Evidence Grade = B).
- Patients who are deprived of environmental stimuli (Evidence Grade = B).

#### Assessment Criteria

The Individualized Music intervention protocol is indicated for agitation associated with chronic confusion (i.e., Alzheimer´s Disease and Related Disorders [ADRD]). Patients should be monitored over a period of time to determine the presence of agitation and any possible temporal patterning. For example, does the patient usually become agitated by mid-afternoon? Behavior monitoring may be achieved by direct observation, patient record audit, or a standardized instrument for measuring agitation. This information will assist in identifying persons at risk for agitation and determining the most appropriate time to intervene.

During the assessment phase, clinicians should be alert to factors in the environment that may cause the person to be agitated. When possible these factors should be eliminated. It is important to note that agitation, secondary to a medical condition, requires treatment of the underlying cause. Under these circumstances Individualized Music protocol may be used in conjunction with the prescribed treatment.

To benefit from individualized music it is recommended that the patient be able to hear a normal speaking voice at a distance of 1-1/2 feet. Impaired hearing may result in the distortion of sound which itself may be a source of irritation.

The expected effect of individualized music is dependent on the identification and implementation of music based on the patient´s specific music preference. Individualized music may not be appropriate for everyone. For example, it may not be effective in persons who have not had an appreciation for music. It is also believed that there is a positive correlation between the degree of significance that music had in the person's life prior to the onset of cognitive impairment and the effectiveness of the intervention (Evidence Grade = B).

## Description of The Intervention

Individualized Music, as an intervention, is relatively inexpensive and requires minimal time expenditure. Following instruction by nursing staff, music may be implemented by nursing assistants, activity staff, and volunteers. The intervention is also versatile and can be implemented in a variety of settings (e.g., long-term care, adult day care, community settings, and acute care settings).

There is also growing recognition for the need to include family members in the planning and implementation of care (Buckwalter et al., 1998). A knowledgeable family member may provide valuable information to guide the selection of individualized music. Following instruction, individualized music may also be implemented by family members during home care or while visiting their "loved one" in the nursing home (Gerdner, 2000).

After determining those patients who are at greatest risk for agitation and ensuring that treatable causes of agitation, such as pain or new onset illness are ruled out, the following steps or guidelines may be used in implementing individualized music:

1. Individualize music selection in accordance with patient preferences (Evidence Grade = B).
    - Determine the significance of music prior to the patient's onset of cognitive impairment (Devereaux, 1997; Gerdner, 1992, 1997, 1998, 2000, 2000; Gerdner & Swanson, 1993; Lipe, 1991)(Evidence Grade = B).
    - Interview patient to determine music preferences. Information should be as specific as possible. For example, specific song titles, performers, preference for instrumental versus vocal music, preference for type of instrumental music (piano, flute, guitar) (Clark, Lipe, & Bilbrey, 1998; Devereaux, 1997; Gerdner, 1992, 1997, 1998, 2000) (Evidence Grade = B). The patient's ethnic and religious background may influence this preference (Gerdner & Buckwalter, 1999) (Evidence Grade = D). The Assessment of Personal Music Preference (Patient Version) (see Appendix A in the original guideline document) was designed to assist in the selection of individualized music.
    - If the patient is unable to provide this information due to cognitive impairment, interview a family member who is knowledgeable about the patient's music preference (Gerdner, 1992, 1998, 2000, 2000) (Evidence Grade = B). The Assessment of Personal Music Preference (Family Version) (see Appendix A in the original guideline document) was designed with this purpose in mind.
    - If possible, obtain a favorite album from the patient's personal collection, which can be transferred to an audiotape and returned back to their collection. Music may also be obtained from public libraries or various philanthropic organizations (Gerdner, 1992, 1997, 1998, 2000; Gerdner & Buckwalter, 1999) (Evidence Grade = B).
2. Optimal effectiveness is achieved by implementing the intervention a minimum of 30 minutes prior to the patient's usual peak level of agitation (Gerdner, 1992, 1997, 1998, 2000, 2000; Gerdner & Buckwalter, 1999; Gerdner & Swanson, 1993; Hall & Buckwalter, 1987) (Evidence Grade = B).

- Patients at risk need to be observed closely for signs of agitation and for any specific causal factors in agitation episodes.

3. Play the music selections using the following procedures:
    - Locate an audio cassette player that can be checked out from a central location, such as the nurses' station, for use as needed (Gerdner & Buckwalter, 1999).
    - Checking-out a cassette player and music can be done by either the patient, family members, or nursing staff.
    - Each music intervention session should last approximately 30 minutes, in a location where the patient spends the majority of his or her time (Gerdner, 1992, 1997, 1998, 2000; Gerdner & Buckwalter, 1999; Gerdner & Swanson, 1993) (Evidence Grade = B). Moving the patient to a new location may in itself be a source of agitation.
    - The volume or loudness of music must be set at an appropriate level (Gerdner, 1992, 1997, 1998, 2000) (Evidence Grade = B).
    - The application of headphones may be discomforting or confusing to persons with advanced dementia. In these cases it may be more appropriate to play the music "free field" (Gerdner & Buckwalter, 1999) (Evidence Grade = D).
4. An ongoing assessment should be conducted to determine the patient's response to the music intervention (Clark, Lipe, & Bilbrey, 1998; Cohen-Mansfield & Werner, 1997; Devereaux, 1997; Gerdner, 1992, 1997, 1998, 2000, 2000; Gerdner & Buckwalter, 1999; Gerdner & Swanson, 1993) (Evidence Grade = B).
    - Monitor the patient while the music is playing to ensure that agitation does not increase or confusion becomes more pronounced. The patient's agitation and/or confusion should be minimized through the music selection.
    - Music that is pleasing to one person may be annoying to another. Therefore, other patients in the immediate area should be assessed for their response to the music (i.e. agitation).

Definitions:

Evidence Grading

A. Evidence from well-designed meta-analysis.
B. Evidence from well-designed controlled trials, both randomized and nonrandomized, with results that consistently support a specific action (e.g., assessment, intervention or treatment).
C. Evidence from observational studies (e.g., correlational, descriptive studies) or controlled trials with inconsistent results.
D. Evidence from expert opinion or multiple case reports.

## CLINICAL ALGORITHM(S)

None provided

## EVIDENCE SUPPORTING THE RECOMMENDATIONS

## REFERENCES SUPPORTING THE RECOMMENDATIONS

References open in a new window

### TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

## BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

### POTENTIAL BENEFITS

- Effective management of agitation in chronically confused elderly patients, as reflected by prevention and reduced frequency and severity of agitation episodes, decreased use of psychotropic drugs, decreased use of physical restraints, and decreased likelihood of elopement or attempt to elope.
- Improved quality of life of elderly patients.

### POTENTIAL HARMS

Patients may become more confused/agitated by music stimuli.

Subgroups Most Likely to be Harmed:

- Patients with comorbid psychological or medical problems
- Patients with impaired hearing (impaired hearing may result in the distortion of sound which itself may be a source of agitation)

## QUALIFYING STATEMENTS

### QUALIFYING STATEMENTS

This evidence-based protocol is a general guideline. Patient care continues to require individualization based on patient needs and requests.

## IMPLEMENTATION OF THE GUIDELINE

### DESCRIPTION OF IMPLEMENTATION STRATEGY

In order to evaluate the use of this protocol and to determine if agitation among high risk patients has been managed effectively, both process and outcome factors should be evaluated. The successful implementation of a new clinical innovation, such as the Individualized Music Intervention, depends on the use of a structured monitoring system that includes evaluating patient outcomes and staff and organizational issues that may facilitate or obstruct its use. An outcomes monitor can help detect if the desired clinical outcomes are achieved and a process monitor, such as the one included with this protocol, can help detect knowledge-based or organizational-based problems that clinicians may have in fully implementing the protocol. Thus, a monitoring system is the last link in a successful program of implementation of evidence-based nursing care.

Outcome Factors

The following clinical outcome factors are expected with the consistent and appropriate use of the individualized music protocol:

- Decreased agitation
- Decreased combativeness
- Decreased use of psychotropic drugs
- Decreased use of physical restraints
- Decreased likelihood of elopement or attempt to elope

For this protocol, direct observation, patient record audit or a standardized assessment instrument such as the Cohen Mansfield Inventory or the Disruptive Behavior Scale may be used to evaluate whether agitation, combative behavior, or elopement behaviors have decreased. Psychometric properties have been established for both of the following instruments in this population of patients.

The Cohen-Mansfield Agitation Inventory was designed to assess the frequency of 30 agitated behaviors over a two-week period of time (See Appendix B in the original guideline document). The frequencies of each behavior are classified into level scores ranging from 1 to 7. A score of one indicates the nonoccurrence of identified agitated behaviors and seven indicates that the specific agitated behavior is exhibited several times per hour.

For further information regarding the Cohen-Mansfield Agitation Inventory, please contact:

Dr. Jiska Cohen-Mansfield, Director
Research Institute of the Hebrew Home of Greater Washington
6121 Montrose Road, Rockville, MD 20852
Telephone: (301) 770-8449

The Disruptive Behavior Scale (DBS) measures the frequency and severity of 45 disruptive behaviors during each shift. Beck and colleagues conceptually define disruptive behavior as that which results in negative consequences for the resident, caregiver, or other residents. This instrument is available from the authors.

The secondary purpose of this protocol is to assist in the improvement of the functional quality of life of patients who experience episodes of agitation and/or confusion. Through patient record audit and interviews, incidence and severity of difficulties (defined as: presence and severity of secondary behavioral symptoms; level of function; incidents regarding safety, such as elopement and combative episodes; and physical and chemical restraint use) can be measured. The Agitation Quality Improvement Monitor (see Appendix C in the original guideline document) will assist in the tracking of outcomes expected from clinical use of this intervention. Please use this monitor on a weekly basis during the intervention period for each patient receiving the protocol. Keep in mind that some of the questions on the Agitation Quality Improvement Monitor may not be appropriate for persons with advanced stages of dementia. When a patient is unable to verbally indicate his or her feelings due to advanced dementia, indicate this in the comment section of the monitor as a justified variation.

It is important to keep in mind that one should use the same method of evaluating agitation before and after the initiation of the individualized music intervention. Timing of these evaluations may differ across settings. You may modify the time frame as necessary for your setting.

Process Factors

Process factors are those factors related to the staff's knowledge and confidence in implementing the protocol. The Individualized Music Intervention Knowledge Assessment Test (see Appendix D in the original guideline document) should be assessed as part of the initial training session for use of this protocol. For example the test may be used as a pre-test and post-test to assess learning.

An example of a process monitor, the Process Evaluation Monitor (see Appendix E in the original guideline document) may be used to determine the staff's understanding of the Individualized Music protocol and to assess the support received for carrying out the protocol on the unit. Nurses are asked to complete this form one month following the use of this protocol.

## INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

### IOM CARE NEED

Living with Illness

### IOM DOMAIN

Effectiveness
Patient-centeredness

## IDENTIFYING INFORMATION AND AVAILABILITY

### BIBLIOGRAPHIC SOURCE(S)

Gerdner L. Evidence-based protocol. Individualized music. Iowa City (IA): University of Iowa Gerontological Nursing Interventions Research Center, Research Dissemination Core; 2001 Feb. 35 p. [43 references]

### ADAPTATION

Not applicable: The guideline was not adapted from another source.

### DATE RELEASED

1996 (revised 2001 Feb)

### GUIDELINE DEVELOPER(S)

University of Iowa Gerontological Nursing Interventions Research Center, Research Dissemination Core - Academic Institution

## SOURCE(S) OF FUNDING

This guideline was developed with the support provided by Grant #P30 NRO3979, National Institute of Nursing Research (NINR), National Institutes of Health (NIH).

## GUIDELINE COMMITTEE

University of Iowa Gerontological Nursing Interventions Research Center Dissemination Core

## COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Author: Linda Gerdner, PhD, RN

Series Editor: Marita G. Titler, PhD, RN, FAAN

## FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

## GUIDELINE STATUS

This is the current release of the guideline.

An update is not in progress at this time.

## GUIDELINE AVAILABILITY

Electronic copies: Not available at this time.

Print copies: Available from the University of Iowa Gerontological Nursing Interventions Research Center, Research Dissemination Core, 4118 Westlawn, Iowa City, IA 52242. For more information, please see the University of Iowa Gerontological Nursing Interventions Research Center Web site.

## AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Individualized music. Quick reference guide. Iowa City (IA): University of Iowa Gerontological Nursing Interventions Research Center Research Dissemination Core; 2001 Feb. 2 p.

Electronic copies: Not available at this time.

Print copies: Available from the University of Iowa Gerontological Nursing Interventions Research Center, Research Dissemination Core, 4118 Westlawn,

Iowa City, IA 52242-1100. For more information, please see the University of Iowa Gerontological Nursing Interventions Research Center Web site.

## PATIENT RESOURCES

The following is available:

- Individualized music. Consumer information. Iowa City (IA): University of Iowa Gerontological Nursing Interventions Research Center Research Dissemination Core; 2001 Feb. 2 p.

Electronic copies: Not available at this time.

Print copies: Available from the University of Iowa Gerontological Nursing Interventions Research Center, Research Dissemination Core, 4118 Westlawn, Iowa City, IA 52242-1100. For more information, please see the University of Iowa Gerontological Nursing Interventions Research Center Web site.



## NGC STATUS

This summary was completed by ECRI on July 24, 2000. The information was verified by the guideline developer as of August 24, 2000. This summary was updated by ECRI on February 6, 2002. The updated information was verified by the guideline developer as of March 13, 2002.

## COPYRIGHT STATEMENT



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